

We claim:

1. A door module assembly for a motor vehicle door, comprising:  
a carrier holding a plurality of door hardware components in a pre-configured orientation;  
a first trim panel, connected to the carrier; and  
at least a second trim panel, joined to the first trim panel, and moveable between a position generally distanced from the carrier plate and an installed position generally flush with the first trim panel and overlapping the carrier plate.
2. A door module assembly according to claim 1, wherein the first and at least second trim panels are articulated together.
3. A door module assembly according to claim 2, wherein the first and at least second trim panels are hinged together.
4. A door module assembly according to claim 1, wherein the first and at least second trim panels cover substantially the entire surface area of the motor vehicle door.
5. A door module assembly according to claim 4, wherein the first trim panel is a lower trim panel and the at least second trim panel is an upper trim panel.
6. A door module assembly according to claim 5, wherein the upper and lower trim panels are articulated together.
7. A door module assembly according to claim 6, wherein the carrier provides a secondary trim component and at least one of the upper and lower trim panels include an opening co-operating with the secondary trim component.

8. A door module assembly according to claim 6, wherein the carrier provides a map pocket shelf and at least one of the upper and lower trim panels include a co-operating opening to thereby define a map pocket.

9. A door module assembly according to claim 6, wherein the carrier is formed from plastic and includes at least one hinge so as to provide at least one moveable flap.

10. A door module assembly according to claim 7, wherein the carrier holds at least one window regulator rail, at least a portion of said rail being accessible behind the at least one flap.

11. A door module assembly according to claim 6, wherein the lower trim panel includes a plurality of hooks that snap-fit into a plurality of corresponding receptacles located on the carrier.

12. A door module assembly according to claim 6, wherein the lower trim panel and the carrier are at least partially interconnected by a plurality of hooks that snap-fit into a plurality of corresponding-shaped receptacles.

13. A door module according to claim 6, wherein the upper and lower trim panels are interconnected by a plurality of lugs which seat into a plurality of corresponding-shaped receptacles.

14. A door module according to claim 13, wherein the lugs located on the upper trim panel and have frusto-pyramidal shaped end portions which seat into correspondingly shaped receptacles located on the lower trim panel.

15. A door module assembly according to claim 1, wherein the carrier holds substantially all of the hardware components required for the door.

16. A method of assembling a motor vehicle door including a structural door body comprising inner and outer sheet metal layers joined together at their peripheries to define a cavity therebetween, wherein the inner sheet metal layer includes at least one relatively large opening providing access to the cavity, the method including:

provisioning a door module assembly comprising:  
a carrier holding a plurality of door hardware components in a pre-configured orientation, including at least one window regulator rail;  
a lower trim panel, connected to the carrier; and  
an upper trim panel, articulated to the lower trim panel, and moveable between a position generally distanced from the carrier and an installed position generally flush with the lower trim panel and overlapping the carrier;  
hanging the at least one rail on the inner sheet metal layer, thereby suspending the door module from the structural door body;  
fastening the at least one rail to the inner sheet metal layer;  
installing various hardware components to the structural door body; and  
moving the upper trim panel into the installed position, wherein the upper and lower trim panels cover substantially the entire surface area inner sheet metal layer.

17. A method according to claim 16, wherein the carrier is formed from plastic and includes at least one hinge so as to provide at least one moveable flap, the at least one window regulator rail being accessible behind the at least one flap.

18. A method according to claim 17, wherein the carrier is substantially unperforated and includes a sealing bead adjacent its periphery which co-operates with the inner sheet metal layer in order to seal the door from the external environment.

19. A method according to claim 18, wherein the carrier provides a secondary trim component and at least one of the upper and lower trim panels include an opening co-operating with the secondary trim component.

20. A method according to claim 18, wherein the carrier provides a map pocket shelf and at least one of the upper and lower trim panels include a co-operating opening to thereby define a map pocket.
21. A method according to claim 18, wherein the lower trim panel includes a plurality of hooks that snap-fit into a plurality of corresponding receptacles located on the carrier.
22. A method according to claim 18, wherein the lower trim panel and the carrier are at least partially interconnected by a plurality of hooks that snap-fit into a plurality of corresponding-shaped receptacles.
23. A method according to claim 18, wherein the upper and lower trim panels are interconnected by a plurality of lugs which seat into a plurality of corresponding-shaped receptacles.
24. A method according to claim 23, wherein the lugs located on the upper trim panel and have frusto-pyramidal shaped end portions which seat into correspondingly shaped receptacles located on the lower trim panel.
25. A method according to claim 18, wherein the carrier holds substantially all of the hardware components required for the door.
26. A method according to claim 18, including rigidly connecting the lower trim panel to the inner sheet metal layer.
27. A method according to claim 18, including rigidly connecting the upper trim panel to the inner sheet metal layer.

28. A method according to claim 18, wherein the rail is suspended from the structural door body by inserting a bolt through an aperture in the inner sheet metal layer and the rail.

29. A door module assembly for a motor vehicle door, wherein the door includes a structural door body having inner and outer sheet metal layers which define a cavity therebetween and the inner sheet metal layer includes at least one access opening to the cavity, the door module assembly comprising:

a carrier plate having a plurality of door hardware mounted thereon, the carrier plate being formed from a substantially water-impervious material and sized to cover and seal the at least one access opening when the carrier plate is mounted against the inner sheet metal layer;

a first trim panel pre-assembled to the carrier plate prior to installation of the door module to the structural door body; and

at least a second trim panel, pre-joined to the first trim panel prior to installation of the door module to the structural door body, the second trim panel being moveable between a non-installed position which is distanced from the carrier plate and an installed position generally flush with the first trim panel and overlapping the carrier plate.

30. A door module assembly according to claim 29, wherein the carrier plate includes at least one integral hinge defining at least one flap section moveable about the corresponding hinge in order to provide access to the cavity without removal of the carrier plate from the door.

31. A door module assembly according to claim 30, wherein the carrier plate holds at least one window regulator rail and a fastening point for attaching the at least one window regulator rail to the inner sheet metal layer is accessible behind the at least one flap.

32. A door module assembly according to claim 29, wherein the first and second trim panels substantially cover up the carrier plate.

33. A door module assembly according to claim 32, wherein the carrier plate provides a map pocket shelf and at least one of the trim panels include a co-operating opening to thereby define a map pocket.

34. A door module assembly according to claim 29, where the first and second trim panels are articulated together, the second trim being moveable approximately 180 degrees between a shipping position co-located with and parallel to the first trim panel to the installed position.

35. A motor vehicle door comprising inner and outer sheet metal layers joined together at their peripheries to define a cavity therebetween, the inner sheet metal layer having at least two relatively large holes therein providing access to said cavity and having a relatively large intervening surface between the two access holes; and

a door handle fastened to the intervening surface of the dinner sheet metal layer;

said intervening surface including a plurality of vertically-orientated ribs substantially covering the entire area of intervening surface.